METHOD AND DEVICE FOR SELECTIVE TREATMENT INSIDE BODY LUMEN

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Technology description

INVENTION NOVELTY

A flexible renal denervation ablation device with sensitive multi-electrode system to selectively regulate electrical delivery to nerves, minimize vessel damage, and treat complex hypertensive patients

VALUE PROPOSTITION

The unwanted side effects of antihypertensive medications have stimulated exploration of alternative treatment modalities, in particular for the growing number of patients with resistant hypertension. Renal denervation serves as a solution due to reported significant decreases in blood pressure observed in patients; however this procedure may not be a solution to those with renal artery stenosis (narrow blood vessels). This technology has overcome such procedural limitations for at risk patients with complex vessel anatomies or clinical history due to its flexible design and faster, yet safer vascular ablation technology.

TECHNICAL DETAILS

Johns Hopkins researchers have developed an innovative vascular catheter device to perform renal denervation ablation from within the peripheral blood vessel. Its enhanced qualities include features to directly yet selectively stimulate specific sites of sympathetic neural tissue and minimize damage to the blood vessel wall. This invention also provides a novel design assembly including a flexible sheath, balloon-catheter, and multi-electrode system for easier access and guidance through different vessel sizes; increasing procedure time and simplifying ablation technique.

Advantages

•Combined sheath and balloon catheter assembly with embedded multi-electrode system
•Selective and controllable electrical pulsation to target nerves without damaging the blood vessel wall integrity
•Complementary design to fix various vessel anatomies

Institution

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